

Trend Study 16B-13-97

Study site name: Oak Creek Ridge Aspen .

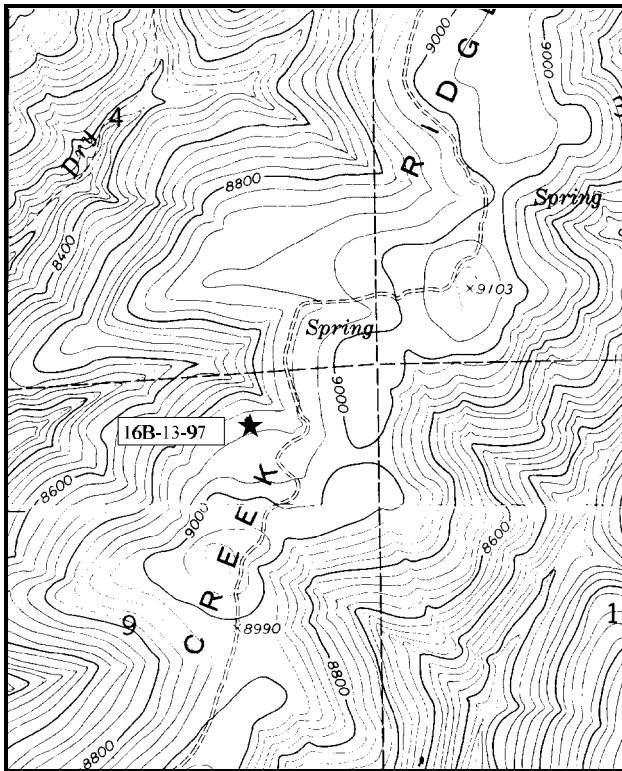
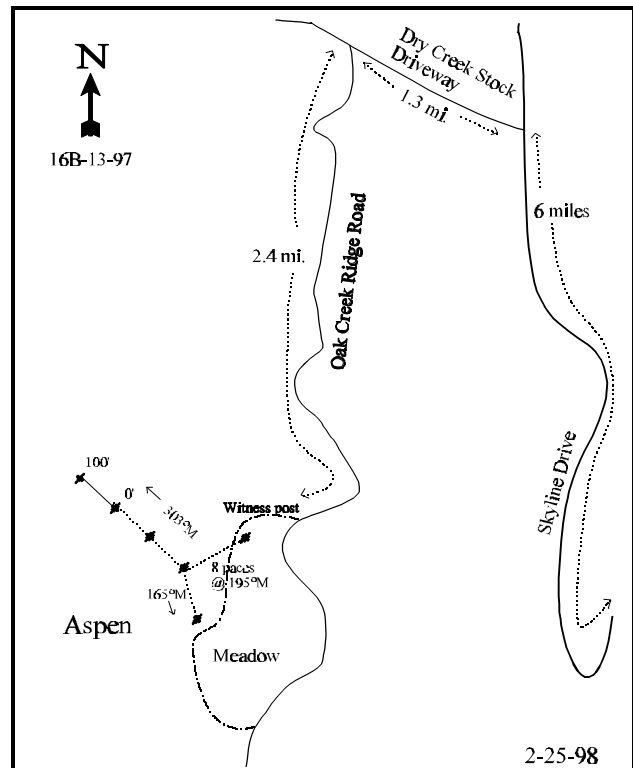
Range type: Quaking Aspen

Compass bearing: frequency baseline 303M degrees. (Line 4 165°M)

First frame placement on frequency belts 5 feet. Frequency belt placement; line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

## LOCATION DESCRIPTION

From the intersection of highways 91 and 31 in Fairview, take highway 31 eastward 8.4 miles to Skyline Drive. Turn north on Skyline Drive and go approximately 6 miles, passing the Gooseberry Road. Turn west onto the Dry Creek Stock Driveway and go 1.3 miles to a fork. Take the left fork (south) through a fence and stay on the Oak Creek Ridge Road for 1.75+ miles passing numerous side roads. Here you will see a bare knoll. Go another 0.3 miles to a clearing with a water trough and a small fork. Stay left at this fork and go another 0.3 miles to a sign That reads “seeded area” on the west side of the road in a clearing. The witness post is back in the clearing. From this post the O-foot baseline stake is 8 paces away at an azimuth of 195°M.

Map Name: Fairview Lakes .Township 13S, Range SE, Section 9

### Diagrammatic Sketch

UTM 4395471.092 N, 468618.346 E

## DISCUSSION

### Trend Study No. 16B-13 (28-13)

One of two studies on Oak Creek Ridge, this study samples an aspen community in an area that is thought to be important spring elk range. This Forest Service land is permitted for cattle grazing. The allotment was rested for two seasons since the meadow was seeded in 1988. During the 1997 reading, pellet group frequency data suggests light use by elk, deer, and cattle.

The site is on a gentle slope (5-10%) with a northwest aspect and an elevation of 8,900 feet. The soil is relatively deep with few rocks in the profile. Effective rooting depth (see methods) is estimated at just over 20 inches. Soil texture is a clay with a neutral pH (6.8). Organic matter is prevalent in the rich soil. A humus rich layer extends down to a depth of 4 to 6 inches, followed by a clay horizon which extends down to the bottom of the shovel at about 20 inches. Compaction and erosion are not a problem. Gopher activity on the site is significant. Vegetation and litter cover are abundant and there is no erosion occurring.

The site samples a mid-aged aspen stand with few seedling or young trees. The population is mostly mature trees, all of which are either mostly unavailable or totally unavailable to browsing due to their height. Point quarter data from 1997 estimated there to be 481 trees/acre with an average diameter of 7 inches. Overhead canopy cover averages 72%. Understory shrubs consist of elderberry and a few snowberry. Elderberry density was estimated at 1,133 plants/acre in 1989 and only 240 in 1997. The change in density is almost entirely due to the much larger, more representative sample used in 1997 giving better estimates for species that are characteristically clumped or discontinuous in their respective distributions. However, it appears that the density of mature plants remained similar while density of young plants which numbered 900 plants/acre in 1989, declined to only 20. Use in 1997 was moderate to heavy. Only one snowberry plant was encountered in the shrub density strips in 1997.

The dense herbaceous understory is the key component to monitor on this site. Only two species of grass, slender wheatgrass and big mountain brome, were encountered in 1989. The larger sample used in 1997 also encountered some Kentucky bluegrass. These three grasses combined, produced less than 6% cover in 1997.

Forbs account for 86% of the vegetative cover on the site and represent the most significant vegetative component. Twenty-five species were encountered in 1997. Common species include; bedstraw, ballhead waterleaf, tuber starwort, and western coneflower. Utilization of the grasses and forbs is light.

### 1989 APPARENT TREND ASSESSMENT

Data from this study indicate a productive, diverse, and stable community. There is no erosion and the soil trend is stable. There is abundant herbaceous forage. Elk have been in the area all spring and summer, and there is sign of light and dispersed utilization in the aspen type. Proper livestock grazing management must be followed. Elk alone have not caused adverse impacts to the vegetative community in this area.

### 1997 TREND ASSESSMENT

The soil trend is stable with no erosion occurring due to the abundant vegetation and litter cover. Little browse is available on this site, but trend for the most abundant understory shrub (elderberry), is stable. Trend for the aspen is stable. However, this is not a particularly healthy aspen stand. Nearly all of the trees are mature with few seedlings and young. Dead trees number 160 per acre or one out of every 5 aspen trees. Trend for the herbaceous understory is down slightly for grasses but up for forbs. Overall trend is considered up since forbs

are the key component on the site as they contribute to 87% of the herbaceous understory.

# TREND ASSESSMENT

soil - stable

browse - stable, but only contributes to less than 1% of the vegetative cover

herbaceous understory - up

## HERBACEOUS TRENDS --

Herd unit 16B , Study no: 13

Type	Species	Nested Frequency		Quadrat Frequency		Average Cover % '97
		'89	'97	'89	'97	
G	Agropyron trachycaulum	141	137	58	52	2.03
G	Bromus marginatus	301	*175	97	66	3.23
G	Poa pratensis	-	*48	-	14	.67
Total for Grasses		442	360	155	132	5.94
F	Achillea millefolium	-	*33	-	13	1.35
F	Agoseris glauca	-	*8	-	4	.04
F	Aster spp.	-	*16	-	6	.54
F	Chenopodium spp. (a)	-	15	-	6	.20
F	Cirsium spp.	-	2	-	1	.15
F	Claytonia lanceolata	-	*182	-	70	1.44
F	Collomia linearis (a)	-	15	-	5	.22
F	Descurainia californica (a)	125	-	59	-	-
F	Erigeron spp.	-	-	-	-	.00
F	Fritillaria atropurpurea	-	*22	-	7	2.68
F	Galium aparine (a)	-	249	-	75	8.15
F	Hackelia patens	66	*-	32	-	-
F	Helenium hoopesii	9	*39	4	17	1.65
F	Hydrophyllum capitatum	-	*188	-	77	4.03
F	Madia glomerata (a)	-	4	-	2	.01
F	Mertensia ciliata	-	*13	-	5	.12
F	Medicago sativa	2	-	1	-	-
F	Osmorhiza occidentalis	60	60	27	30	1.37
F	Polygonum douglasii (a)	-	3	-	2	.01
F	Rudbeckia occidentalis	175	*79	73	41	3.59
F	Senecio serra	4	-	2	-	.00
F	Stellaria jamesiana	242	243	89	78	7.25

T y p e	Species	Nested Frequency		Quadrat Frequency		Average Cover % '97
		'89	'97	'89	'97	
F	Taraxacum officinale	3	*48	2	22	.88
F	Thalictrum fendleri	6	1	3	1	.03
F	Unknown forb-annual	-	11	-	4	.48
F	Unknown forb-perennial	-	*75	-	23	1.80
F	Vaccinium caespitosum	-	3	-	2	.01
F	Vicia americana	107	82	46	34	1.31
F	Viguiera multiflora	13	*68	6	24	.37
F	Viola spp.	54	*91	28	44	1.10
Total for Forbs		866	1550	372	593	38.84

\* Indicates significant difference at % = 0.10 (annuals excluded)

#### BROWSE TRENDS --

Herd unit 16B , Study no: 13

T y p e	Species	Strip Frequency	Average Cover %
		'97	'97
B	Populus tremuloides	31	.21
B	Sambucus racemosa pubens microbotrys	10	.18
B	Symphoricarpos oreophilus	1	.15
Total for Browse		42	0.55

#### BASIC COVER --

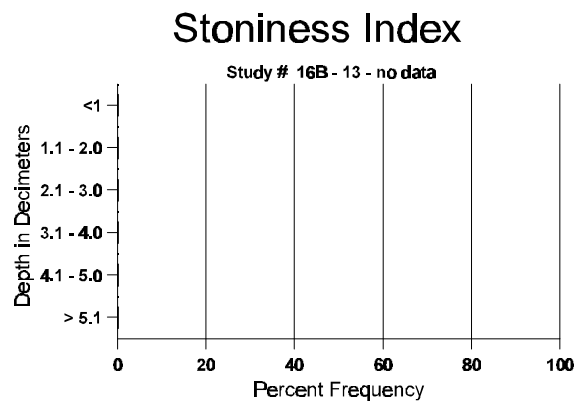
Herd unit 16B , Study no: 13

Cover Type	Nested Frequency	Average Cover %	
		'89	'97
Vegetation	383	15.25	48.09
Rock	47	.25	.66
Pavement	46	0	.10
Litter	389	64.50	63.64
Cryptogams	2	0	.00
Bare Ground	127	20.00	8.44

# SOIL ANALYSIS DATA --

Herd Unit 16B, Study no: 13

Effective rooting depth (inches)	Temp °F (depth)	PH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
20.1	38.6 (17.7)	6.8	24.0	27.8	48.2	6.7	22.3	182.4	.4



# PELLET GROUP FREQUENCY --

Herd unit 16B , Study no: 13

Type	Quadrat Frequency '97
Rabbit	3
Elk	1
Deer	2
Cattle	2

## BROWSE CHARACTERISTICS --

Herd unit 16B , Study no: 13

A G R E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches)		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4		Ht.	Cr.	
Populus tremuloides																		
S	89	-	1	-	-	-	-	-	-	-	1	-	-	-	33		1	
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
Y	89	-	-	-	-	-	-	-	4	-	4	-	-	-	133		4	
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
M	89	-	-	-	-	-	-	-	11	-	11	-	-	-	366	393 158	11	
	97	-	1	-	-	-	-	-	39	-	40	-	-	-	800	- -	40	
X	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	-	-	-	-	-	-	-	-	-	-	-	-	-	160		8	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'89		00%			00%			00%			+38%							
'97		03%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'89	499	Dec:	-			
												'97	800		-			
Sambucus racemosa pubens microbotrys																		
Y	89	21	6	-	-	-	-	-	-	-	27	-	-	-	900		27	
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
M	89	6	1	-	-	-	-	-	-	-	7	-	-	-	233	79 39	7	
	97	3	5	2	-	-	-	-	-	-	10	-	-	-	200	31 14	10	
D	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	1	-	-	-	-	-	-	-	-	-	-	-	1	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'89		21%			00%			00%			-79%							
'97		42%			17%			08%										
Total Plants/Acre (excluding Dead & Seedlings)												'89	1133	Dec:	0%			
												'97	240		8%			
Symphoricarpos oreophilus																		
Y	89	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0	
	97	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'89		00%			00%			00%			Appeared							
'97		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'89	0	Dec:	-			
												'97	20		-			